

CLAIMS

What is claimed is:

1. A light sensitive semiconductor package, comprising:
 - a chip carrier having an upper surface and an opposite lower surface;
 - at least one first chip mounted on and electrically connected to the upper surface of the chip carrier;
 - a dam formed on the upper surface of the chip carrier and having a cavity for receiving the first chip therein;
 - a first light permeable member attached to the dam to seal an opening of the cavity and hermetically isolate the first chip from the atmosphere;
 - an encapsulant formed on the chip carrier and surrounding the dam; and
 - a second light permeable member supported by the encapsulant and disposed above the first light permeable member.
2. The semiconductor package of claim 1, wherein the chip carrier is formed with a through hole penetrating therethrough, allowing the first chip to be mounted over the through hole.
3. The semiconductor package of claim 2, further comprising: at least one second chip attached to the first chip and received in the through hole of the chip carrier, allowing the second chip to be electrically connected to the lower surface of the chip carrier and encapsulated by the encapsulant.
4. The semiconductor package of claim 3, wherein the first and second chips are electrically connected to the chip carrier by a plurality of bonding wires, respectively.
5. The semiconductor package of claim 1, wherein the first light permeable member is an infrared filter.
6. The semiconductor package of claim 1, wherein the second light permeable member is a lens.

7. The semiconductor package of claim 1, wherein the chip carrier is a substrate or a lead frame.
8. The semiconductor package of claim 2, wherein the chip carrier is a substrate formed with the through hole, or a lead frame having a plurality of leads surrounding the through hole.
9. The semiconductor package of claim 1, wherein the dam is made of a material same as that for fabricating the encapsulant.
10. The semiconductor package of claim 1, wherein the dam is made of a material different from that for fabricating the encapsulant.
11. A fabrication method of a light sensitive semiconductor package, comprising the steps of:
 - preparing a chip carrier having an upper surface and an opposite lower surface;
 - mounting at least one first chip on the upper surface of the chip carrier and electrically connecting the first chip to the chip carrier;
 - forming a dam on the upper surface of the chip carrier, the dam having a cavity for receiving the first chip therein;
 - attaching a first light permeable member to the dam to seal an opening of the cavity and hermetically isolate the first chip from the atmosphere;
 - forming an encapsulant on the chip carrier to surround the dam; and
 - mounting a second light permeable member to be supported by the encapsulant and disposed above the first light permeable member.
12. The fabrication method of claim 11, wherein the chip carrier is formed with a through hole penetrating therethrough, allowing the first chip to be mounted over the through hole.
13. The fabrication method of claim 12, further comprising a step of: attaching at least one second chip to the first chip and receiving the second chip in the through hole

of the chip carrier, allowing the second chip to be electrically connected to the lower surface of the chip carrier and encapsulated by the encapsulant.

14. The fabrication method of claim 13, wherein the first and second chips are electrically connected to the chip carrier by a plurality of bonding wires, respectively.
15. The fabrication method of claim 11, wherein the first light permeable member is an infrared filter.
16. The fabrication method of claim 11, wherein the second light permeable member is a lens.
17. The fabrication method of claim 11, wherein the chip carrier is a substrate or a lead frame.
18. The fabrication method of claim 12, wherein the chip carrier is a substrate formed with the through hole, or a lead frame having a plurality of leads surrounding the through hole.
19. The fabrication method of claim 11, wherein the dam is made of a material same as that for fabricating the encapsulant.
20. The fabrication method of claim 11, wherein the dam is made of a material different from that for fabricating the encapsulant.